



HUMAN LANDING SYSTEM



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NASA Marshall Space Flight Center

Space Generation Fusion Forum

April 3, 2022

Apollo 8



Apollo 10



Apollo 11



Apollo 12



Apollo 13



Apollo 14



Apollo 15



Apollo 16



Apollo 17



Apollo 11



Apollo 12



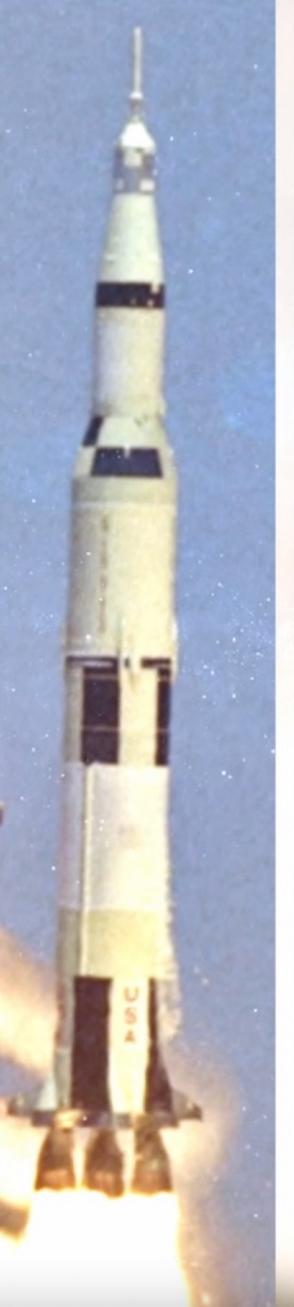
Apollo 14



Apollo 15

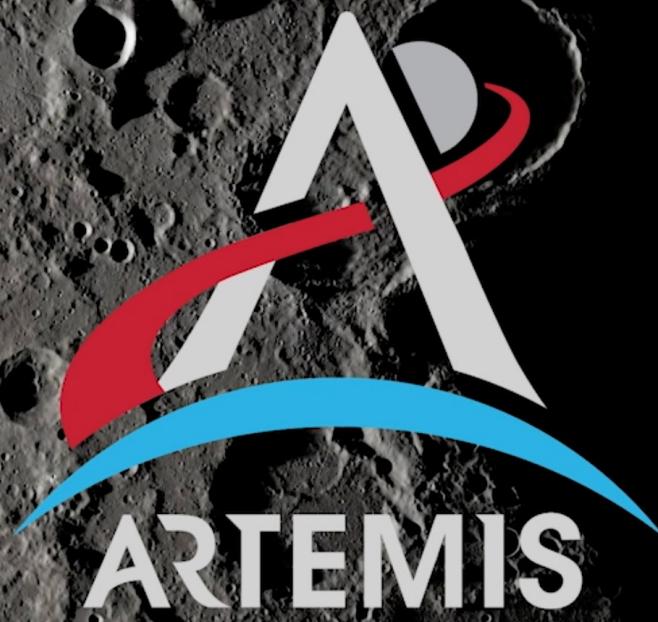


Apollo 16

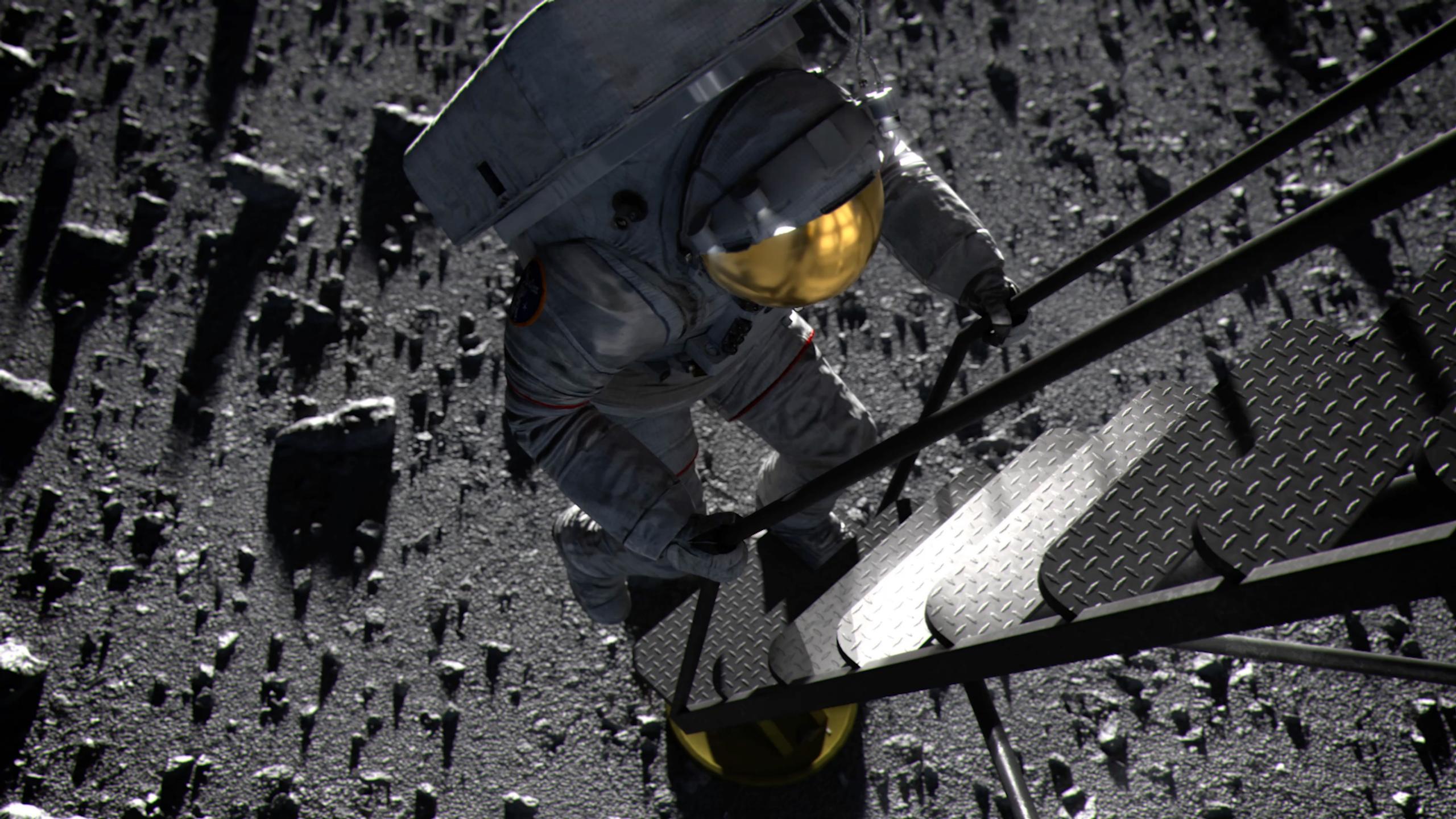


Apollo 17



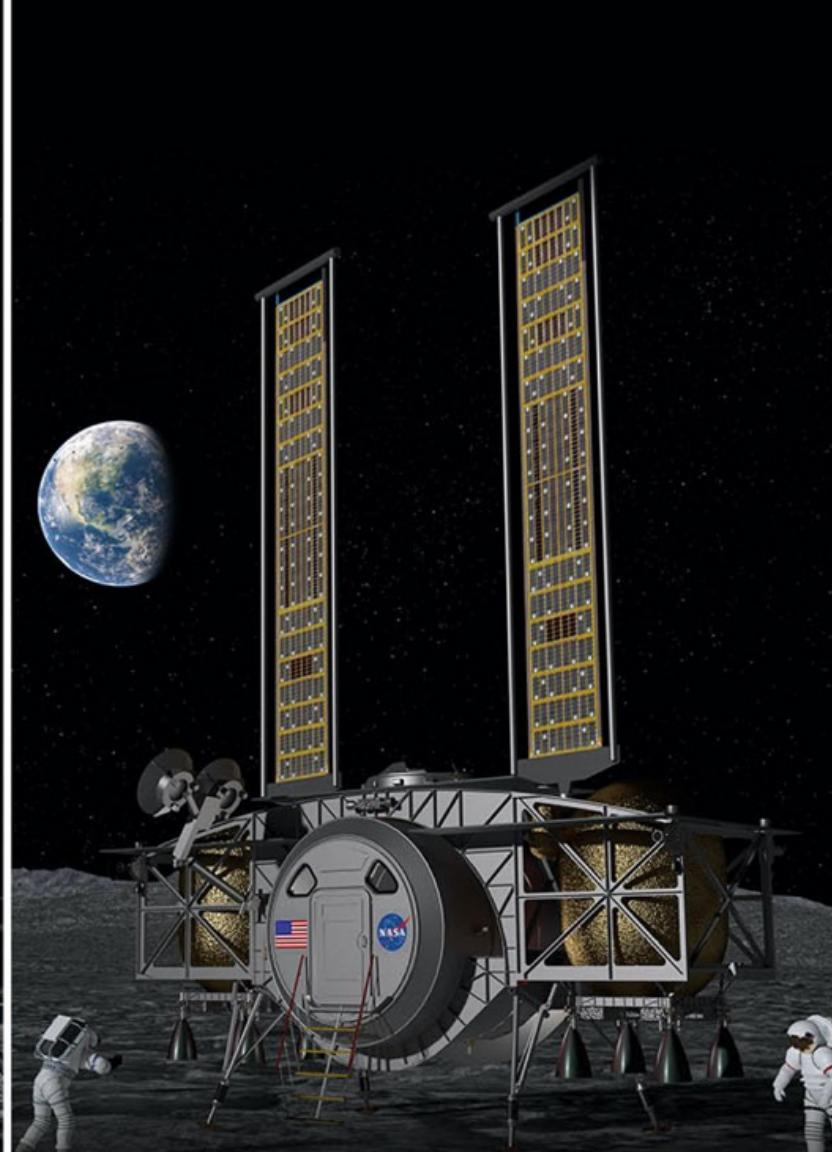




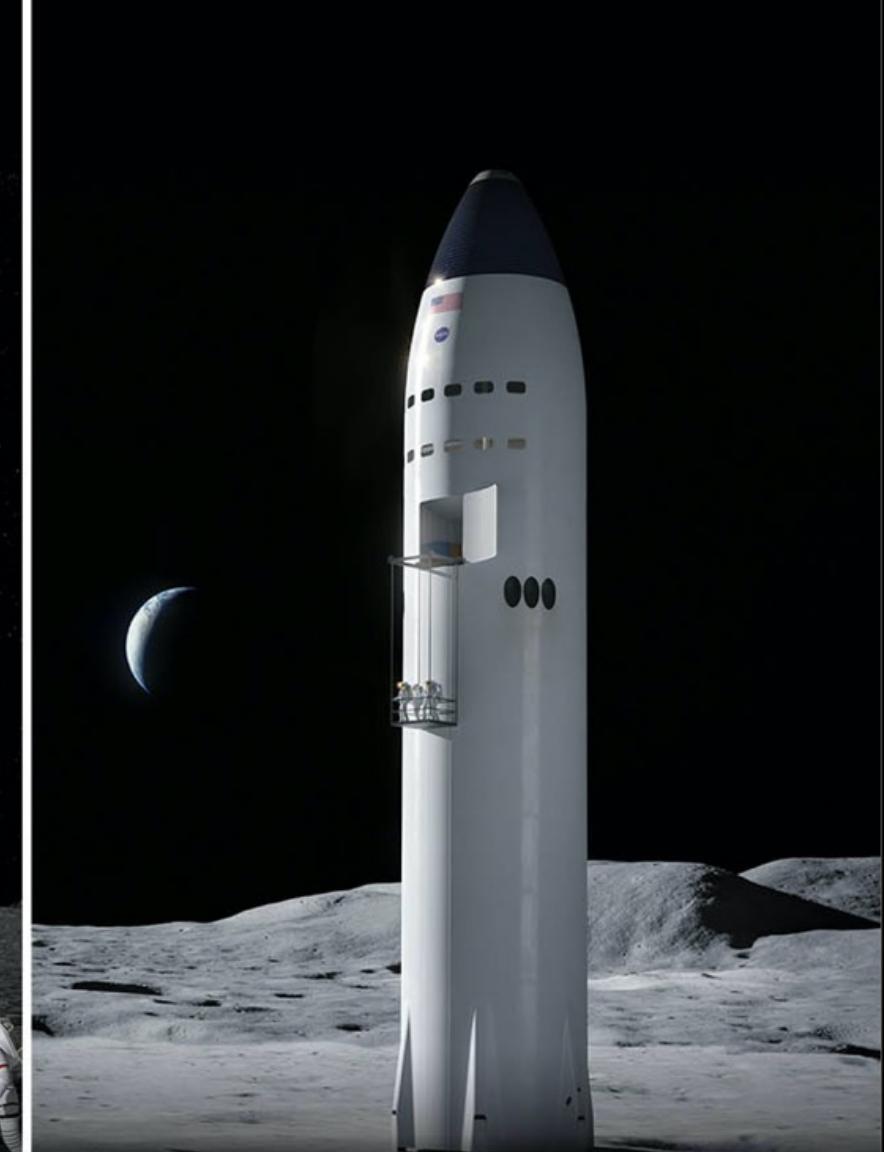




LOCKHEED MARTIN 
BLUE ORIGIN 
NORTHROP GRUMMAN 
DRAPER



 **Dynetics**
A Leidos Company



SPACEX 

Initial Human Landing System

HLS

NASA has awarded SpaceX a contract to develop the human landing system that will put the next two Americans on the surface of the Moon.

The contract includes one uncrewed and one crewed demonstration mission, the first surface landing of Artemis.



Image Credit: SpaceX

Option A Initial HLS Starship Progress



Crew and cargo elevator



Image Credit: SpaceX

Crew cabin VR evaluation



Airlock







NASA TV

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Moon to Mars

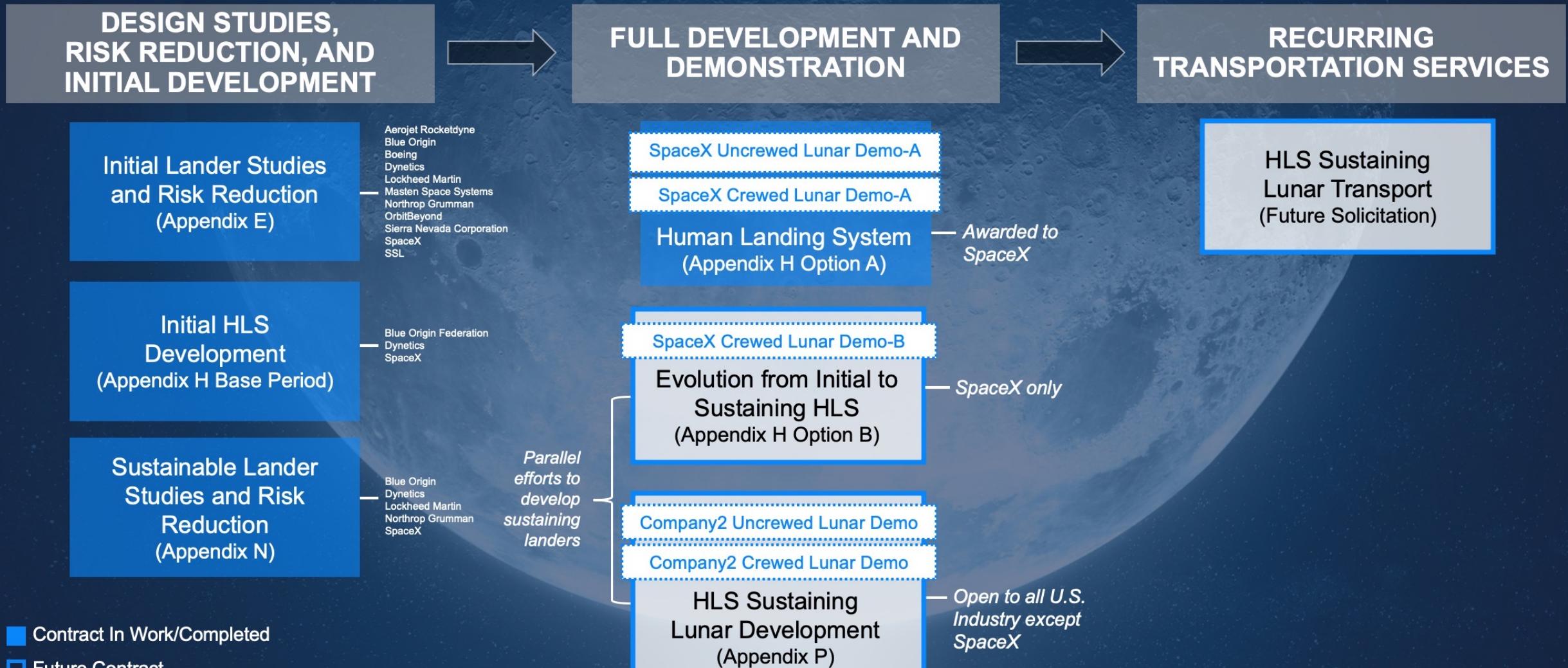


Mar 31, 2022

NASA Invites U.S. Industry to Build Additional Astronaut Moon Landers



Human Landing System (HLS) Procurement Path



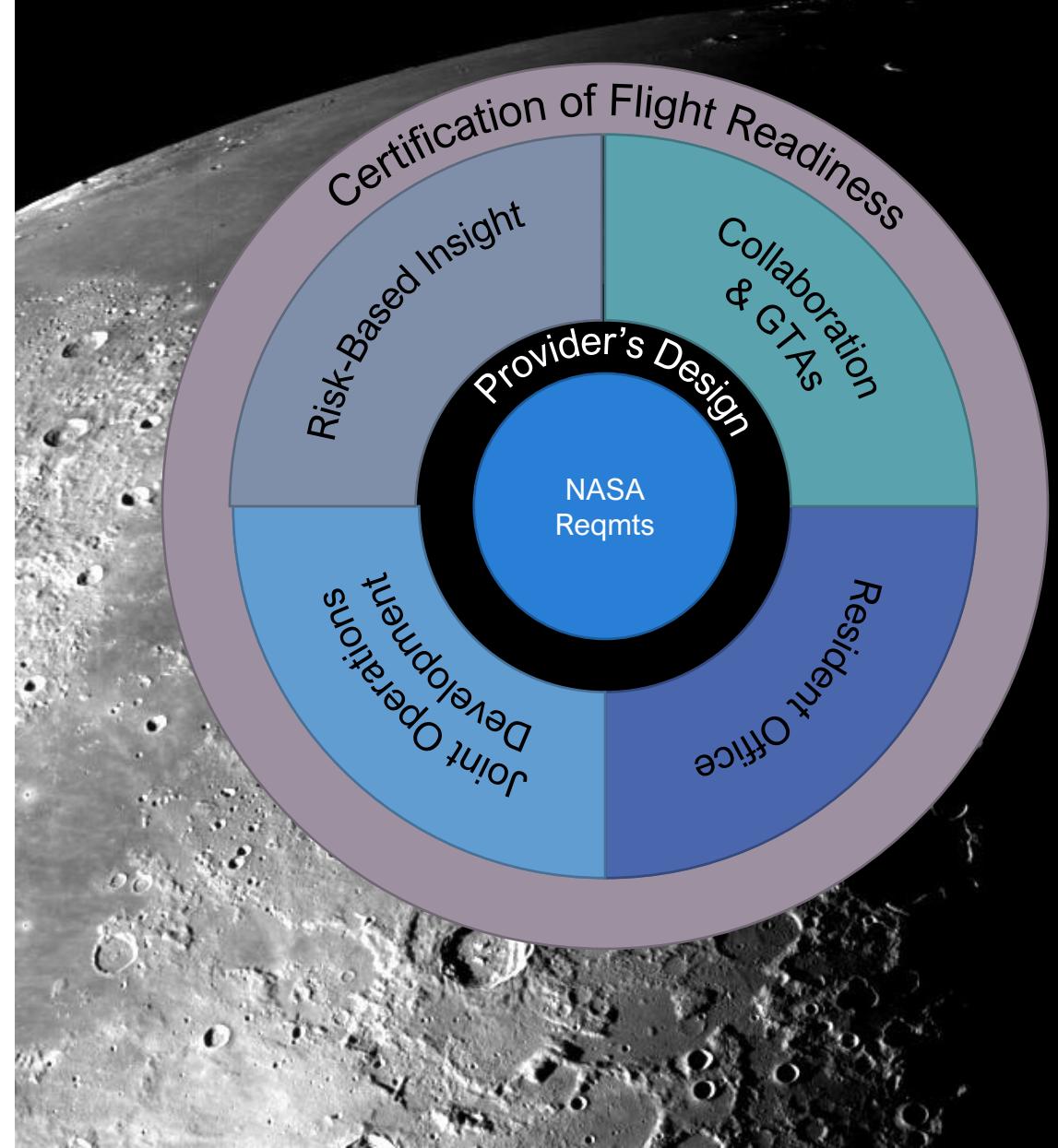
Insight

- Risk based focusing on targeted areas of program concern
- Ensures HLS resources are applied efficiently, and that Providers are not overly burdened by excessive insight activity in low risk areas

Collaboration

- Personnel that are assigned to work with the Provider and part of their team
- Accomplish tasks that are specified by the Provider, and deliverable to the Provider as in-line work

NASA maintains ultimate authority on certification for flight readiness.





LUNAR SOUTH POLE



Taking the Next Giant Leap

Humans on Mars

← Earth



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Q U E S T I O N S ?